ID: 2314

Congress: The First International Congress of Medical Bacteriology

Title: Antimicrobial Effects of Hops Extracts on Salmonella typhi Vi+ In Vitro, In Vivo & Cell culture.

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Abstract: Background and objectives: Typhoid fever diseases created by Salmonell typhi Vi+ and one of the important enteric infectious diseases in overall world. So, the aim of this study was to determined antibacterial activity of aquatic, ethanolic and acetonic extracts of Hops against Salmonella typhi Vi+.

Material & Methods: mentioned extracts prepared. In vitro MIC and MBC for Salmonella typhi Vi+ calculated. Then, effect of extracts on Salmonella typhi Vi+ studied on BALB/C mice and in macrophages culture in cell culture condition.

Results: result indicated that MIC and MBC for Hops aquatic extract was 1:40 (1/2 mg/ml) and 1:20 (2/5 mg/ml) and for acetonic and ethanolic was 1:80 (100 μg/ml) and 1:40 (200 μg/ml). The In vivo average grown Salmonella typhi Vi+ after 48 hours of culture of spleen supernatant for Hops aquatic, ethanolic and acetonic extracts net dilution sequently 65×104 CFU/ml, 72×102 CFU/ml and 81×102 CFU/ml that in comparison with control group that was 25×109 CFU/ml shown significantly decrease. Also in the cell culture was determined that the aquatic extract of Hops 1:40 and 1:80 dilution and ethanolic and acetonic extracts dilution of 1:40, 1:80 and 1:160 causing complete destraction of Salmonella typhi Vi+ within macrophages are in 24 hours and aquatic extract 1:160 dilution was also only 100/ml CFU Salmonella typhi Vi+ have been to survive. 1:320 dilution was also a significant number of bacteria in 24 hours of time are gone.

Conclusion: Overall these research indicated that ethanolic and acetonic extracts than aquatic extract Hops have most antimicrobial activity on Salmonella typhi Vi+ and to be useful in treatment of typhoid fever.

Salmonella typhi Vi+, Hops extracts, BALB/c mice, Cell Culture, Antimicrobial effect.

Presentation: Poster